DOCUMENT RESUME

ED 212 814 CE 031 239

AUTHOR Martin, Larry G.
TITLE Achievement Motivation Training--Effects on ABE/ASE Students' Psychosocial Self-Perceptions.
INSTITUTION Wisconsin Univ., Madison. Inst. for Research on Poverty.
SPONS AGENCY Alabama State Dept. of Education, Montgomery. Div. of Adult Basic Education.
REPORT NO DP-659-81
PUB DATE 81
NOTE 24p.
AVAILABLE FROM Institute for Research on Poverty, Social Science Bldg., 1180 Observatory Dr., Madison, WI 53706.

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Achievement Need; Adult Basic Education; Adult Education; Adult Literacy; Adult Programs; *Adult Students; Illiteracy; *Motivation Techniques; Pretests Posttests; *Program Effectiveness; *Psychological Characteristics; Psychological Needs; Secondary Education; *Self Concept; *Social Characteristics; Social Development; Social Experience
IDENTIFIERS Achievement Motivation Training; Ego Stage Development Model; Erikson (Erik); Psychosocial Development; Self Description Questionnaire

ABSTRACT

A study was conducted to identify psychosocial needs of Adult Basic Education (ABE)/Adult Secondary Education (ASE) students by using the Self-Description Questionnaire (SDQ). A second purpose was to test effectiveness of Achievement Motivation Training (AMT) as a technique to counterbalance the negative impact of these students' former experiences on their psychosocial development. It was hypothesized that AMT conducted by professional psychologists does not change significantly the psychosocial self-perceptions of ABE/ASE students. A pretest/posttest experimental group of 15 ABE/ASE students who received AMT from three professional psychologists were tested using the SDQ which determines the extent to which adults positively or negatively resolved the eight ego-stages of Erikson's model of ego-stage development. Results indicated that significant changes in the psychosocial self-perceptions of the sample were achieved for the first four ego-stages in Erikson's model. The study concluded that when conducted by well-trained persons, AMT could be a useful technique to significantly improve the psychosocial self-perceptions of ABE/ASE students. Implications from the study included provision for testing AMT or a similar technique in ABE/ASE programs and equipping teachers with skills to detect and help students with psychosocial deficiencies. (YLB)

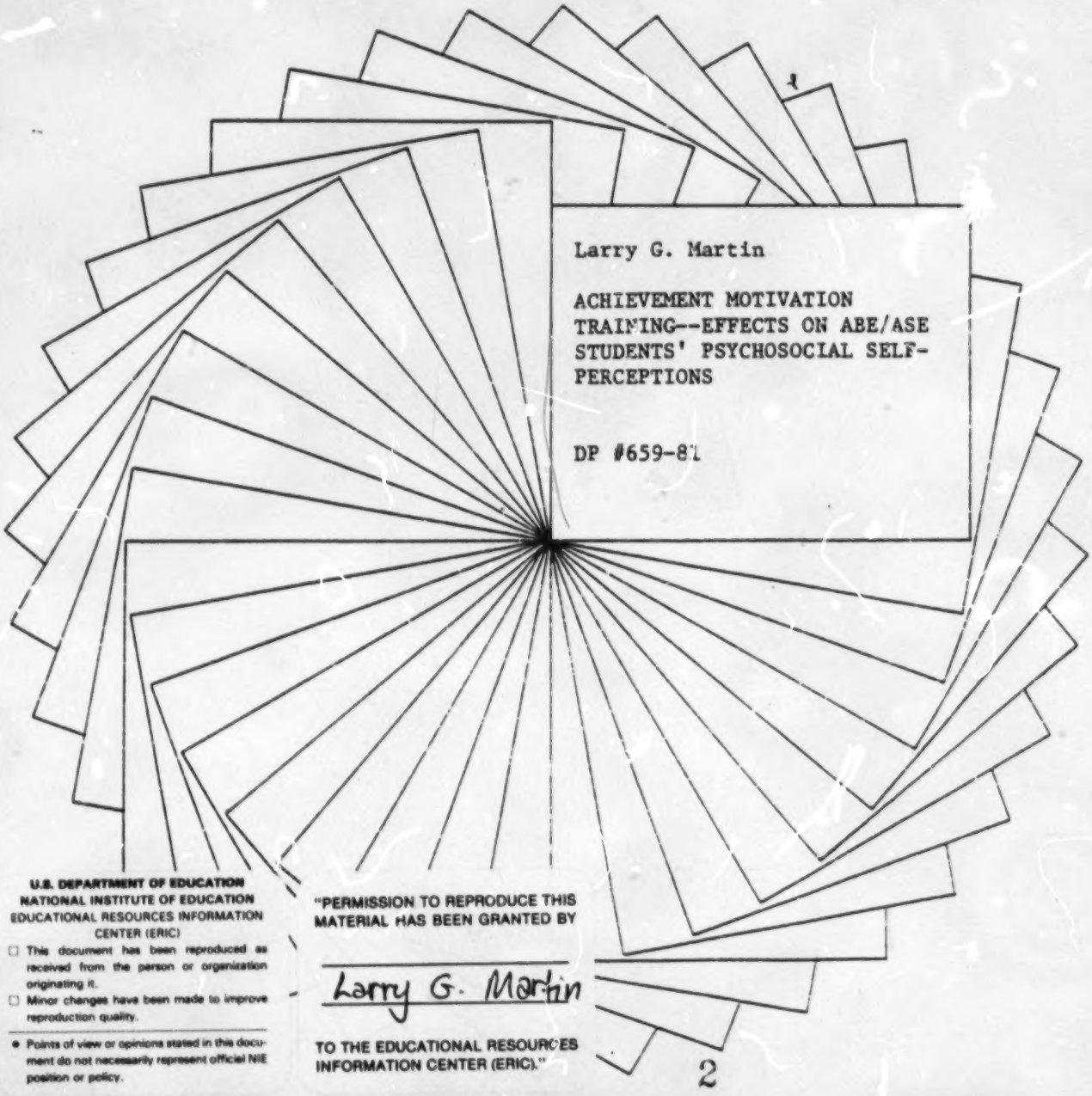
****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED212814

University of Wisconsin-Madison

Institute for Research on Poverty

Discussion Papers



Larry G. Martin

ACHIEVEMENT MOTIVATION TRAINING--EFFECTS ON ABE/ASE STUDENTS' PSYCHOSOCIAL SELF-PERCEPTIONS

DP #659-81

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Larry G. Martin

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

CE031239

Achievement Motivation Training—Effects on ABE/ASE Students' Psychosocial Self-Perceptions

Larry G. Martin
Institute for Research on Poverty
University of Wisconsin-Madison

This research was funded by a 310 grant from the Alabama State Department of Adult Education.

ABSTRACT

Inability to deal with the psychosocial needs of students is a significant cause of the failure of Adult Basic Education and Adult Secondary Education programs to make a sizeable impact on the literacy deficiencies of the many millions of Americans who cannot read or write well enough to function effectively in society. This study was designed to identify those psychosocial needs by using an instrument that was based on Erik Erikson's Ego-Stage development model; and to test the effectiveness of Achievement Motivation Training (AMT) as a technique to counterbalance the negative impact of these students' former experiences on their psychosocial development. A pretest/post-test experimental group of 15 ABE/ASE students who received AMT from three professional psychologists was used to test the hypothesis.

The results indicated that significant changes in the psychosocial self-perceptions of the sample were achieved for the first four ego-stages in Erikson's model. The study concluded that when conducted by well-trained persons, AMT can be a useful technique to significantly improve the psychosocial self-perceptions of ABE/ASE students.

Achievement Motivation Training--The Effects on ABE/ASE Students' Psychosocial Self-Perceptions

INTRODUCTION

Approximately 57 million Americans have literacy deficiencies which prevent them from conducting the most basic tasks necessary for minimum participation in the American society. They are people who cannot, for example, correctly write checks or address letters (14, 17). Of this number, 23 million lack the competencies necessary to function in society and an additional 34 million are able to function, but not proficiently (14). In 1970 approximately 66 million adults aged 16 years and over had not completed high school (16) and were found by the Adult Performance Level (APL) study (1) to be among the least competent adults in this society. The direct and indirect economic consequences of maintaining a large social stratum of low-literates in a highly industrialized, technological, and print-conscious nation are staggering. Millions of dollars in costs are incurred yearly from specific consequences: taxes to pay for public assistance, lost productivity and joblessness, crime and prison upkeep, and needless industrial accidents (17). An even higher toll is suffered in human costs that cannot be estimated by quoting "bloodless" statistics.

As a psychological reaction to their deficient literacy, low-literate adults have often developed a negative self-concept that is manifested in a complicated series of deceptions and evasions used as defensive coping strategies; these include "lying low," "watching for traps," etc., to avoid being humiliated (17, 5). Their defensive strategies have effectively hampered the efforts of multi-billion-dollar government programs

designed to educate, train and employ them. For example, the 1966 Adult Education Act was designed to provide a means by which low-literate adults could become more employable, productive, and responsible citizens. To accomplish all these goals, the programs that were developed to implement the act--adult basic education (ABE) and adult secondary education (ASE) programs--have focused on upgrading the literacy of participants, to the exclusion of equivalent efforts toward improving their self-esteem. The literature suggests that this policy has contributed to creating a situation in which ABE/ASE programs serve annually less than 5 percent of the approximately 57 million low-literate adults they were designed to serve, primarily because they experience high rates of attrition (24).

Clearly, to increase the effectiveness of ABE/ASE programs and their own abilities to reach such students, teachers of low-literate adults must become more familiar with these students' psychosocial needs than they are currently (12, 19, 20), and must develop the skills to cope with such needs (22). The purpose of the study that is reported below was to identify the psychosocial needs of ABE/ASE students by using a particular theoretically grounded instrument, the Self-Description Questionnaire (SDQ); and to test the effectiveness of Achievement Motivation Training (AMT) as a means to counterbalance the negative impact of these students' former experiences on their psychosocial development.

LITERATURE REVIEW: CHARACTERISTICS OF LOW-LITERATE ADULTS

The literature portrays low-literates as possessing negative social and psychological characteristics which contribute heavily to their per-

sonal problems. The existence and effects of the problems experienced by low-literate adults have been documented and discussed by a variety of authors: such individuals are unable to function in a complex technological society because their abilities are frustrated by negative self-concepts which are both self-perpetuating and prohibit their effective participation in school settings. After failing, low-literates often discover, if they attempt education a second time, that the academic environment to which they return is not prepared either to cope with, or to help them cope with, their psychological problems and needs. These authors, therefore, portray low-literates as being trapped in a hopeless chain of events that locks them into self-defeating views of themselves and erodes their motivation to achieve, through education, a standard of living commensurate with their levels of ability.

From a survey of literacy programs, Anderson and Niemi (2) identified several social and psychological barriers—including the fear of failure, school, and change—that underlie interpersonal relationships among low-literates and between their subculture and the greater society. They observed that a lack of self-confidence often results in the acquisition of behavior patterns which serve to conceal personality deficiencies, and which may inhibit these individuals from pursuing educational objectives in the adult years. Kavale and Lindsey (15) found the greatest obstacle that illiterate adults face when returning to school is psychological—that is, previous school failure and a deeply entrenched fear of academic symbols make the low-literate feel unacceptable as a student. Herself a former ABE student, D. M. Hastings (13) stated that these adults often have extremely negative attitudes that must be overcome before they can

learn, and that it should not be surprising to detect among them feelings of fear, suspicion, and contempt toward schools.

Martin (22) investigated the likelihood that ABE/ASE students had positively resolved the first four stages of the ego-stage development model (10, 11) that, according to Erikson's theory, form the building blocks to an adult personality. From a self-reported descriptive profile of psychosocial characteristics, he found that a majority of the 72 students he sampled perceived themselves as having positively resolved the stages of autonomy and industry, but as having negatively resolved the stages of trust and initiative. He concluded that all four stages should receive the attention of teachers who attempt to help students resolve psychosocial problems, but that trust and initiative should receive the greatest emphasis.

Conceding that low-literates have prohibitive social and psychological problems, several authors suggested that the self-perpetuating failures of such individuals may extend beyond their control and into the educational programs they attend. Mezirow et al. (24) asserted: "The failure syndrome endemic to the ghetto, barrio, and reservation--a continually reinforced conviction of failure and incompetence, bred by a grim history of frustrating school experiences and subsequent inability to support oneself and one's family--becomes a self-fulfilling prophecy" (p. 29). Kreitlow (18) argued that a history of failure in school, past and present prejudice against disadvantaged low-literates that results from a self-concept little understood and long ignored by middle-class teachers, and the discomfort of risking a strange situation build a wall between the student and the classroom. Manzo et al. (20) stated: "Much of our failure as educators in helping America's low literates is a by-

product of not knowing who they are, what they feel, or just what they are all about" (p. 1). Arguing that adult educators lack knowledge about and insightful experiences with ABE students and therefore tend to relate to them with pity or resentment, rather than empathy and understanding, they suggested such students are "treated" and "manipulated," but rarely educated.

Several authors have made explicit their belief that a relationship exists between teachers' knowledge of students' social and psychological needs and the high rates of absenteeism and retention problems experienced by many programs. Mezirow et al. (24) found that highly task-oriented teachers who resist diversion or personalization and concentrate on getting through the coursework seemed less likely to succeed than those who were sensitive to the importance of showing concern for students as individuals and who often consequently established relationships of closeness and trust. Hand (12) argued that if ABE teachers are to become more effective they must be sensitive to the peculiar needs and characteristics of adults as learners. Kreitlow (19) suggested that adult educators need to understand the students in the context of their various subcultures to evaluate adequately the effect of proposed educational programs and experiences on these individuals' value systems, personalities, and total patterns of behavior. Kavale and Lindsey (15) summarized the views of these authors when they wrote: "The fundamental problem concerns the inability of ABE to meet the needs of those illiterate adults who enroll in programs... To meet these adults' needs, ABE must devise strategies to...develop a significant body of knowledge about the characteristics of illiterate adults" (p. 370).

The preceding review portrays low-literates as having experienced environments that have negatively affected their psychosocial development; this is manifested in their inability to break the cycle of situations and circumstances that locks them into a life of poverty. But understanding the actual psychosocial characteristics possessed by low-literate adults is only a first step in helping them alleviate the causes and consequences of their psychosocial problems and needs. To accomplish this, adult educators must first specify and categorize these needs and then develop strategies to cope with the ones that have been identified. The next section describes the instrument used to identify and characteize the psychosocial needs of the low-literate adults who constituted the sample for the experiment. Thereafter, a possible technique for altering the motivational patterns of underacheivers--AMT--is described and its effectiveness analyzed.

IDENTIFYING PSYCHOSOCIAL CHARACTERISTICS

Erik Erickson's (10, 11) model of ego-stage development provided the theoretical foundation for the instrument used to identify and describe the positive and negative psychosocial characteristics of the students in the sample. Grounded in ego psychology, the model describes human behavior in developmental terms that are rooted in the principle of transaction between the growing organism and the changing environment. It seeks to identify and explain the integrative and disruptive forces acting within and on the human organism as it attempts to handle problems arising from various fields of operation.

The model postulates that people develop in an epigenetic pattern of confronting and resolving, either negatively or positively, inner and

outer conflicts associated with each of eight developmental ego stages. The negative or positive resolution of each ego stage is strongly influenced by the transactions between the environment and the instinctional drives of the individual. Therefore, individuals who resolve a given ego stage positively obtain a stronger, more firmly developed ego, exhibit behaviors that demonstrate trust, autonomy, initiative, industry, etc., and are epigenetically prepared to enter the next stages. Those with negative resolutions would likely experience weak egos, manifest behaviors which exhibit mistrust, shame and doubt, excessive guilt, a sense of inferiority, etc., and encounter severe, but not insurmountable problems in attempts to positively resolve future stages.

When this model is applied to the psychosocial problems experienced by low-literates, Martin (22) argues, it becomes clear that a majority of them have weak egos because they have negatively resolved the first four stages of the model, and therefore tend to encounter problems in positively resolving the adult stages and obtaining for themselves a productive adult life. For example, adults who exhibit excessive mistrust of themselves and other people often find it difficult to develop deep and rewarding interpersonal relationships, such as intimacy with a spouse or a significant other, and often exhibit suspicion and mistrust of their own inner thoughts, actions, and behaviors. Because of an overburdening conscience which divides them radically within themselves, and which results in a self-restrictiveness that keeps them from living up to their inner capacities or their imaginative powers and feelings, adults who exhibit excessive guilt often lack the motivation to initiate their own projects or ideas, and lack the competitiveness necessary to succeed in a competitive society. Readers who are interested in a more complete

treatment of Erikson's model are referred to his publications (10, 11), and those wanting more information on the model's applicability to ABE and ASE students are referred to Martin (22).

The instrument used in the study--the Self-Description Questionnaire (SDQ)--was developed by Robert Boyd (7, 8) to determine the extent to which adults positively or negatively resolved the eight ego-stages of Erikson's model. The original instrument was composed of 160 items which were scored on two six-point scales--a like-unlike scale and a pertinency scale--with each item constructed to have a positive or negative valence to the solution to a given ego crisis. It was tested for content and construct validity and reliability by Boyd and Koshela (6). They reported that the instrument accurately and consistently assesses the variables in Erikson's model and announced it ready for general use by researchers.

The present study employed a shorter, 64-item form of the SDQ which was revised by Martin (22) to improve its applicability to a sample of low-literate adults. This form was revised again for this study to provide even greater clarity to low-literates; where possible, item statements were shortened, and multisyllabic words and remaining esoteric terms were replaced with monosyllabic words and terms familiar to low-literates. The suggested revisions were reviewed by Robert Boyd, who made additional suggestions which were incorporated into the form. This form was pilot-tested with a group of 68 ABE and ASE students in northern Alabama. To avoid reading problems for illiterate students in the sample, the instrument was placed on audio tape and administered via taped recording. Subsequent discussions with the students revealed that they did indeed understand the focus of the statements and considered

their participation in the exercise a learning experience. To determine the instrument's reliability, a coefficient of correlations was computed using the Reciprocal Averages Program (RAVE), which is an item analysis technique developed by Frank Baker (3); the coefficient was found to be .92 for the like-unlike scale. The instrument appears to me to be highly consistent and clearly applicable in identifying the psychosocial characteristics of ABE/ASE students.

ACHIEVEMENT MOTIVATION TRAINING

A technique that seems promising in helping low-literate adults to constructively address their psychosocial problems and needs within the confines of ABE/ASE programs is Achievement Motivation Training (AMT). Developed as a result of a five-year study on motivation by McClelland et al. (23), AMT systematically utilizes concepts derived from the achievement imagery of high-need achievers (persons with a great deal of motivation to succeed) to motivate low-need achievers (persons unable to make full use of their potential to succeed) in academic settings (21). McClelland et al. (23) discovered that motives develop from affective arousal, which in turn results from certain discrepancies between expectations and perceptions. They therefore defined a motive as the learned result of pairing cues with affective arousal or the conditions which produce it. By investigating the motivational achievement imagery of high-need achievers and comparing them with those held by low-need achievers, they discovered significant differences in the imagery produced by the two groups when they analyzed the same problem situations.

The ability to differentiate between high-need achievers and low-need achievers established the foundation upon which AMT was developed.

McClelland et al. demonstrated, through AMT, the ability to teach people to increase their motivation to achieve, through practice in telling stories which contained the essential elements of the responses given by high-need achievers, but which were primarily unknown to low-need achievers.

Six elements form the basis of an AMT Program (21):

1. Setting Goals--expressing desire on the part of the main character;
2. Planning Steps--the physical or mental activity required to reach the goal;
3. Overcoming External Blocks--identifying and solving unexpected problems that have arisen and that are beyond the direct control of the main character;
4. Overcoming Internal Blocks--identifying personal qualities or traits which may make it difficult to reach goals and develop a set for personal change;
5. Finding Helpful People--initiating a search for another, more knowledgeable person, to assist the main character in reaching his/her goal;
6. Anticipating Future Rewards--looking ahead to some of the rewards that will be forthcoming when the goal is reached.

The program employs story-telling as a technique to help low-need achievers to build a set of achievement-oriented cognitions about confronting and resolving different problem situations. In a typical session, the trainees are asked to develop stories about pictures which depict goal-directed activities by the main characters. By helping the trainees tell better achievement-oriented stories, the trainers help them to imagine and think the way high-need achievers do and later to adapt their behaviors to their recently acquired ways of thinking.

The size of the training group proved to be an important variable in the success of AMT programs. The early programs used individual instru-

tion, which was effective but highly inefficient. Markel et al. (21) tested large groups but found them less successful. They therefore devised the strategy, employed in this study, of working with several small groups of three or four students within each training session. This approach both allowed trainers to work with participants individually, and increased the opportunity for participants to receive support and social reinforcement from persons other than the trainers.

HYPOTHESIS

A null hypothesis, tested at the .05 significance level, was formulated to test the effects of AMT on the psychosocial self-perceptions of ABE/ASE students:

> Achievement motivation training as conducted by professional psychologists does not change significantly the psychosocial self-perceptions of ABE/ASE students for any of Erikson's eight ego-stages.

METHODOLOGY

The research design consisted of a pretest/post-test experimental group (9) which received AMT from three professional psychologists--Markel, Rinn, and Worthy (see Markel et al. [21])--who were hired as consultants to conduct the training. The experiment was designed to determine if the consultants, by adminstering AMT, could effect a significant change in the psychosocial self-perceptions of the students sampled. The group consisted of 15 students who met for 15 two-hour sessions over a period of 8 weeks--October through November of 1979.

Sample

The sample consisted of ABE/ASE students who were enrolled in an Adult Learning Center located in northern Alabama. None of the students had completed their GED's; all stated that achieving this goal was their primary purpose for being in the program. Their educational levels ranged from level I (zero through fourth grade) to level III (ninth through twelfth grade). They were either blue-collar workers, unemployed and unskilled, or housewives of blue-collar workers. All reported that they lived in the metropolitan city of approximately 170 thousand people where the center was located.

A random sampling process was first attempted but was later abandoned for one that would allow any student desiring to participate in the training to do so. Fifteen self-selected students took the pretest, which consisted of an administration of the SDQ, and 11 took the post-test--the second administration of the SDQ. Attendance in the sessions for those completing both tests ranged from a low of 5 to a high of 15, with the average being 11 sessions. This group had a good racial and sexual mix: 6 blacks, 4 whites and 1 oriental; 6 men and 5 women. Their ages ranged from 23 to 54 with an average age of 37.

Scoring the Like-Unlike Scale

Each student taking the SDQ had negative and positive scores for each of the eight ego-stages represented in the instrument. The lowest possible positive score was (+1) and the highest was (+20), where the lowest possible negative score was (-1) and the highest was (-20). The zero point on this continuum was considered to be inconclusive, that is,

neither positive nor negative. To determine the negative or positive ego stage resolutions for each student, their total negative scores were added to their total positive scores and the difference in these two scores constituted a student's score for a particular ego stage.

The Wilcoxon Matched-Pairs Test

The significance of the differences observed between the scores obtained from the pretest and post-test was determined by applying the Wilcoxon matched-pairs test to the data. This test assumes the data to be slightly higher than ordinal scale and makes it possible not only to rank the original scores themselves, but to rank the differences among such scores. It is especially useful in situations that require a great deal of power and efficiency, but when the sample size is too small to justify the normality assumption (4).

RESULTS OF THE STUDY

The consultants were able to effect significant changes in the psychosocial self-perceptions of the students sampled for the first four ego-stages in Erikson's model (Table 1). With the exception of the seventh stage, all the changes were in a positive direction. That is, the students who took the pretests and participated in the training sessions scored more positively on the post-tests than they did on the pre-tests. Therefore, the null hypothesis was rejected.

TABLE 1

DIFFERENCES IN PRETEST/POST-TEST SCORES ON EGO-STAGE RESOLUTIONS IN THE CONSULTANTS' GROUP

Like-Unlike Scale

Ego Stages	Pretest Total Score	Post-test Total Score	Total Group Improvement	T
Trust	-37	-1	+36	11*
Autonomy	-3	+31	+28	2.5*
Initiative	-33	-15	+18	.9*
Industry	+15	+34	+19	7.5*
Identity	0	+3	+3	17
Intimacy	+25	+26	+1	15.5
Generativity	+54	+26	-28	30
Integrity	1	+21	+20	14

N = 11

T = 11, $P < .05$

*T is significant at the .05 level

DISCUSSION

The literature suggested that the past experiences of low-literate adults have had a negative impact on their psychosocial development, and that this may account for many of the fundamental reasons why costly efforts to assist them have failed. Similarly, the efforts of ABE/ASE programs demonstrate the inability of cooperating federal, state, and

local programs to achieve high levels of success in enrolling and graduating large proportions of low-literate adults, in the absence of overt consideration of ways to help them to overcome the consequences of their psychosocial problems and needs. The teachers of such students have been inhibited in coping with or helping students cope with such problems and needs because they lacked the necessary knowledge, considered it to be beyond their roles, or decided it would be hopeless to attempt the resolution of such problems within the classroom. By indicating that the negative ego-stage resolutions experienced by low-literates can be significantly and positively changed in ABE/ASE classes, the results of this study provide an impetus for interested teachers to help students positively resolve such problems.

The study demomonstrates that when conducted by well-trained persons, ART can be a useful technique to significantly improve the psychosocial self-perceptions of ABE/ASE students. The significant differences observed between the pretest and post-test scores of the participants also indicate that when provided the opportunity, these students will constructively address the psychosocial problems that most concern them. The way in which the training was conducted tended to focus considerable attention on the key elements of Erikson's first four ego-stages. The trainers pursued assiduously their efforts to establish trusting relationships with the students, encouraged them to discuss their own ideas and to make decisions, and helped them to build confidence and competence through the comments they made about improving the goal-oriented activities of the characters in their stories.

A brief structured interview with each student who completed the training revealed that they all enjoyed it, and experienced a great deal

of personal growth from it. Many were able to identify personal accomplishments, such as establishing closer relationships to their children, that they thought to be direct outcomes of their training. Others thought that they were better able to cope with the demands of the educational environment of the ABE/ASE program in which they were enrolled, and identified other specific goals, such as becoming a registered nurse, that were inspired by the training. All indicated a desire for additional training and indicated they would also encourage their friends to enroll if the training was offered again.

IMPLICATIONS

There are several implications from this research: they range from conclusions applicable to program policies aiming to alleviate poverty in the lives of low-literate adults to conclusions applicable to the practitioners who implement those programs. Policymakers should establish, as an element of funding formulas, provisions for program administrators to test, on a demonstration basis, the use of AMT or some other technique that focuses on mitigating the consequences of the psychosocial needs of low-literate adults. This approach would allow a number of ideas to be formulated and tested with a broad range of programs and clients, so that the best possible approach might emerge and be incorporated into other programs that share similar characteristics.

With or without the assistance of policymakers, administrators of ABE/ASE programs can provide teacher-training programs designed to equip teachers with the skills to detect students with academically inhibiting psychosocial deficiencies, help them to specify the problems encountered,

and provide knowledge of the means to help students to improve. Teachers who have not received such training can start to play a more constructive role in helping students cope with their psychosocial problems by: spending time with students in order to build trusting relationships; discussing and encouraging students' goal-oriented activities; and helping students to achieve a realistic mental image of the problems and opportunities involved in achieving their goals.

Researchers interested in helping low-literates improve their psychosocial self-perceptions can also pursue several approaches. Among other issues, they could test the applicability of other techniques to resolution of the psychosocial problems experienced by these individuals; identify the short- and long-term effects of AMT on ABE/ASE students or other low-literates, in different settings; and determine if AMT can be applied with equal success by persons other than trained professionals.

REFERENCES

1. Adult Functional Competency: A Report to the Office of Education Dissemination Review Panel. Austin, Texas: Division of Extension, University of Texas, 1975.
2. Anderson, Darrell and Niemi, John A. Adult Education and the Disadvantaged Adult. Department of Health, Education, and Welfare, Office of Education, April, 1969.
3. Baker, F. B. Origins of the Item Parameters X50 and B as a Modern Analysis Technique. Journal of Educational Measurement, Vol. 2, pp. 167-180, 1965.
4. Blalock, Hubert M. Social Statistics. New York: McGraw-Hill, 1972.
5. Bowren, Fay R. and Zintz, Miles V. Teaching Reading in Adult Basic Education. Dubuque, Iowa: Wm. C. Brown Company Publishers, 1977.
6. Boyd, Robert D. and Koskela, Robert N., A Test of Erikson's Theory of Ego-Stage Development by Means of a Self-Report Instrument. The Journal of Experimental Education, Vol. 38, No. 3, Spring, 1970.
7. Boyd, Robert D. Analysis of the Ego-Stage Development of School Age Children. Journal of Experimental Education, Vol. 32, No. 3, Spring, 1964.
8. Boyd, Robert D. Basic Motivation of Adults in Non-Credit Programs. Journal of Adult Education, Vol. 11, pp. 91-96, 1961.
9. Campbell, Donald T. and Stanley, Julian C. Experimental and Quasi-Experimental Designs for Research. Chicago: Rand McNally, 1963.
10. Erikson, Erik H. Identity, Youth and Crisis. New York: W. W. Norton, 1969.
11. Erikson, Erik H. Childhood and Society. 2nd Ed. New York: W. W. Norton, 1963.

12. Hand, Samuel E. A Review of Physiological and Psychological Changes in Aging and Their Implications for Teachers of Adults. Florida State Department of Education, 1968.

13. Hastings, Dorothy M. Significant Assets of Effective Teachers of Adult Reading. Document Résumé, April, 1963.

14. Hunter, Carmon St. John and Harmon, David. Adult Illiteracy in the United States. New York: McGraw-Hill, 1979.

15. Kavale, Kenneth A. and Lindsey, Jimmy D. Adult Basic Education: Has It Worked? Journal of Reading, February, 1977.

16. Kirschner, E. J. et al. An Analysis of Selcted Issues in Adult Education, Final Report. Volume 1. U.S. Department of Health, Education, and Welfare, Office of Education, February 1976.

17. Kozol, Jonathan. Prisoners of Silence: Breaking the Bonds of Adult Illiteracy in the United States. New York: Continuum, 1980.

18. Kreitlow, Burton W. Adult Basic Education--An Improvement Evaluation. Indianapolis, Indiana: State Department of Public Instruction. November, 1972.

19. Kreitlow, Burton W. Educating the Adult Educator, Part I, Concepts for the Curriculum. U.S. Department of Health, Education and Welfare, Office of Education, 1965.

20. Manzo, Anthony V., Lorton, Mary, and Condon, Mark W. F. Personality Characteristics and Learning Style Preferences of Adult Basic Education Students. School of Education, University of Missouri, Kansas City, 1975.

21. Markel, Allan, Rinn, Roger C., and Worthy, Morgan. Achievement Motivation Training. Huntsville, Alabama: Monte Sano Press, 1977.

22. Martin, Larry G. An Exploratory Descriptive Study of the Psychosocial Characteristics of ABE/ASE Students and the Effects of Education on Four Psychosocial Variables. Unpublished Dissertation, University of Wisconsin-Madison, 1978.

23. McClelland, David C. Atkinson, John W., Clark, Russel A., and Lowell, Edgar L. The Achievement Motive. New York, Appleton-Century-Crofts, 1953.

24. Mezirow, Jack, Darkenwald, Gordon G., and Knox, Alan B. Last Gamble on Education. Washington, D.C.: Adult Education Association of the U.S.A., 1975.